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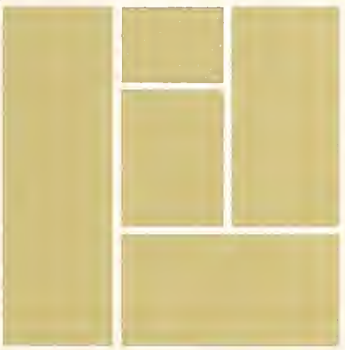

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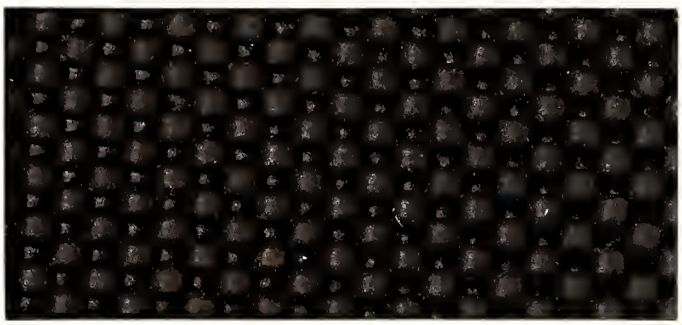
Project Report



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A STUDY OF THE ROLE OF PHYSICIAN PRICES IN A MEDICAID PROGRAM, CALIFORNIA, 1976-1978: REVIEW OF PROJECT GOALS AND FINDINGS

Philip J. Held

Executive Summary

Principal Investigator: Philip J. Held

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Title of the Project: A Study of the Role of Physician Prices in A Medicaid Program, California, 1976-1978

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INTRODUCTION

In the fall of 1976, California increased the fee schedule for physicians treating Medicaid patients by a substantial 20 percent. Reacting to the "natural laboratory" which such fee schedule increases permit, The Urban Institute undertook to conduct an analysis of the impact of that fee schedule change. The analysis focused on a 6-month period prior to the increase (January to June 1976) and two 6-month periods following the increase (January to June 1977 and 1978). The project was unique because of the following factors:

1. The focus was <u>patient</u> specific in that the analysis was focused on the medical care use of patients. Most other studies of this type, including all previous Medicaid analyses conducted at The Urban Institute, focused on the supply of services by physicians. While those studies were useful for many purposes, they were deficient because of their narrow focus on the physician, whose services account for only 10 to 20 percent of all program costs. The current study was designed to enable a more comprehensive analysis of all medical care received--including laboratory, x-ray, and inpatient hospital services. The only exceptions were nursing home care and drugs.*

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*Nursing home patients and all long-term hospitalizations were excluded because there was particular interest in the use of ambulatory services. Drugs were excluded to simplify data processing. In addition, Los Angeles county was excluded because the hospitals in that county were not paid for ambulatory care in the same manner as the rest of the state.

2. The project sample of beneficiaries was randomly drawn from the eligibility roles. This is distinct from most such studies, which track only those persons who use medical care. Starting with the eligibility rolls enabled this study to focus on the effect of physician prices on the user/nonuser status of Medicaid eligibles, i.e., how do physician prices affect access to medical care?

3. The project was able to track patients in all settings of care, including hospital outpatient departments and hospital emergency rooms. Previous studies frequently could only track one such location. For example, the National Center for Health Statistics focuses on patient-physician encounters in the physician's office only. Not only were all locations covered, but a profile of medical care use for a given time period (as distinct from single episodes) was constructed.

4. The nature of the medical claims files permitted the drawing of large samples from both urban and rural areas, and from any age group.

The project methodology was based on the 6-month patient profiles of medical care use constructed for a large sample of patients both before and after the fee schedule increase of 1976. With the individual patient profiles as a basis, the ambient conditions in the patient's market area (approximated by county) were appended to each record. These ambient indicators included,

in particular, measures of the prices charged by physicians to private patients. Prior research has shown what the private market is offering to physicians is as important in determining supply of Medicaid services as are Medicaid prices

The California Setting

The California setting is familiar to many; however, it is worthwhile to highlight some of the conditions in California that affect the interpretation of the results of this study. The most important factor to note is that during the entire analysis period of this study (1974-1979), California was reimbursing physicians in the Medicaid program on a fee schedule basis. That is, the price paid for a given service was determined in advance and had many of the characteristics we attribute to the popular notion of prospective payment. While such a procedure for physician payment under Medicaid was not totally unique to California, only a minority of states used such a system for physician services in the Medicaid program. The predominant form of physician reimbursement nationally was a usual and customary schedule, which adjusts physician fees for a procedure to a combination of marketwide average and the individual physician's fees for such a procedure in a prior period. The principle point is that in California the fee schedule for physicians was fixed in advance.

Another significant feature of California during our study period is that physicians were reimbursed by Medicaid in all locations according to a fee schedule. Traditionally, most states have reimbursed Medicaid services provided in settings other than a private physician's office--like an outpatient department (OPD) or emergency room (ER)--on a "cost" basis.

When the 1976 Medicaid physician changes were first introduced, a 40 percent discount was applied to OPDs and ERs, to take into account the fact that some of the overhead cost of visits in such settings was reimbursed by the state under separate provisions. One year into the new program, however, this discount rate was lowered to 20 percent. This was analytically equivalent to a substantial increase in the price of these visits, relative to office visits, when compared to the situation in the first year of the new system. This change in the relative prices of services provided in the OPD/ER compared to the price in physicians' offices introduced a noncomparability into our data, which probably contributed to the difficulties we experienced (discussed below) in attempting to discern the effect of physician fees on the probability of using an OPD/ER versus a private physician's office.

GOALS OF THE PROJECT

The initial goals of the project centered around the principal instrument of public policy to change in 1976--the prices paid by the state to physicians on behalf of Medicaid patients. The decision to focus on the impact of changes in the fee-for-service payment schedule was because of the importance of the physician as typically the primary gatekeeper and decision-maker or advisor regarding the use of medical care. Our initial goals were the following generic questions:

1. What is the role of physician prices in the access to and use of medical care by the Medicaid population? Does use increase when prices to suppliers are increased? Do higher physician prices lead to more patients using the

system or do higher prices only lead to more use by the people already in the system?

2. What is the role of physician prices in the choice of ambulatory setting? Do higher Medicaid prices lead to more or less use of an outpatient department versus a private physician's office?

3. Do physician prices for ambulatory care have an effect on inpatient care and costs?

We were able to identify clear and unambiguous answers in the first instance. The answers remained somewhat ambiguous in the latter two cases, due at least in part, to the possibly distorting effect of a further change in the de facto fee schedule facing the OPDs and ERs during our study period. Pursuit of the latter two goals, however, did lead us to other related analyses that turned out to shed substantial new light on important health care questions.

4. What differences are there in the cost to the Medicaid program of treating patients in an OPD versus in a private physician's office? Are the characteristics and health conditions of patients in these two settings the same? Are there differences in the manner in which these patients are treated? In particular, do the patients in these two settings have different rates of hospitalization?

5. Why do some patients use substantially more ambulatory care than others? Is there systematic evidence to

support the anecdotes circulating about shopping Medicaid hypochondriacs whose health care use could be reduced by a simple system of physician monitoring?

6. Methodologically, what can we show about the use of claims data to analyze questions related to diagnosis and location of care?

RESULTS

The project can be summarized by the titles of the major papers that have resulted:

Number	Date	Author	Title
1403-02	Nov. 1983	K. Swartz	Why Are Frequent Users of Ambulatory Care Responsible for a Disproportionate Share of Medicaid Expenditures in California?
1403-03	Feb. 1984	C. Hamcke	Where Medicaid Eligibles Receive Ambulatory Care: A Methodology to Assign Predominant Source of Care
1403-04	Feb. 1984	C. Hamcke	Medicaid Claims Data as a Source of Hospital Diagnostic Information
1403-05	Feb. 1984	P. Held K. Swartz	Effect of Ambulatory Case Mix on Hospitalization Rates
1403-06	Oct. 1984	P. Held	Medicaid Physician Prices and Changes in Medical Care Use
1403-07	Oct. 1984	P. Held	Use of Medical Care by a Sample of the Medicaid Population: A Compendium of Data Tables, California, 1976-1978

The results of each of these papers are highlighted in this section. In addition, the conclusions to each paper are reproduced as Appendices to this review.

As described in greater detail in Held's paper, "Medicaid Physician Prices and Changes in Medical Care Use" (see Appendix E for its conclusion), physician prices clearly affect access to and the quantity of ambulatory medical care consumed. Held develops two theoretical bases to explain why higher money prices to physicians lead to more use by the Medicaid population who face no out-of-pocket cost. He also develops empirical estimates of the quantitative impact of changes in physician prices. His conclusions were:

- Higher physician prices lead to more Medicaid eligibles using the medical care system. Estimates of the elasticity of the probability of ambulatory use in a 6-month period range upwards from 0.7. Similarly, the role of higher private prices is to lower access to care. While other studies have focused on the increased physician supply which results from higher Medicaid prices, this was one of the first to show that more patients come into the system as a result of the higher prices, even with eligibility criteria fixed.

Held also addressed the question of the quantitative impact (as distinct from use or no use) of higher Medicaid prices on ambulatory use.

- His results showed that both the total number of visits per six months and the total value of the visits increase. The value is measured in relative value units (RVUs) and correlates directly with total program cost. Elasticity estimates were generally in excess of 0.5. The magnitude of the increase was lower for total value than for total visits, however, because visit intensity

decreased with total visits. The probable reason for this is that the additional patients brought into the system when prices are increased may be of higher health status and require less intense visits.

Held's empirical analysis supported the notion that higher private prices lead to lower access levels as measured by the probability of a Medicaid eligible being a user of ambulatory care in a 6-month period. They did not, however, confirm theoretical expectations and the results from previous research with regard to the expected negative effect on type and composition of that care. This may reflect unresolved simultaneity problems in measuring private price.

In the paper by Held and Swartz, "Effect of Ambulatory Case Mix on Hospitalization Rates" (see Appendix D for the conclusion to that paper), they disaggregate and compare the composition of Medicaid reimbursements for a large sample of beneficiaries treated in private physician offices and in hospital OPDs. In summary, they show that:

- The key to understanding total program costs is the use of the hospital. Hospital costs clearly dwarf all other costs, even though only a small fraction of patients use the hospital.
- While simple analyses of hospitalization rates for patients treated in the two settings supports the folklore that OPDs have substantially higher hospitalization rates, more detailed analysis of the causes of hospitalization removes OPDs from the role of villain in these

matters. Simply put, the patient mix is not the same in the two settings. Pregnancy was a major source of the difference in patient mix between the two settings, but there were other differences as well. Neither hospital discharge diagnoses nor selected lists of discretionary procedures supported the notion that physicians in hospital OPDs use the OPD as a side door to the hospital.

- Held and Swartz also compared the composition of reimbursements among items such as laboratory and x-ray versus physician visits, inpatient services, etc. Their results clearly show that while there is some evidence that such ancillaries are used more by hospital OPDs, the total volume is so small compared to other items, particularly hospitalization, that extensive policy concern over these matters is not likely to be cost effective.

In a third paper written as part of this project, "Why Are Frequent Users of Ambulatory Care Responsible for a Disproportionate Share of Medicaid Expenditures in California?" (see Appendix A for its conclusion), Swartz addresses issues which originate in the Medicaid folklore of the "heavy users of medical care." The folklore is that there is a pool of heavy users who move from physician to physician and use extensive and "unnecessary" amounts of medical care. Acceptance of this folklore leads to the policy prescription that a simple and presumably low-cost gatekeeper to medical care would eliminate this problem with dramatic savings. Swartz's results do not support the folklore or the easy-fix solutions:

- o There is no evidence to suggest that physicians in private practice who treat frequent users are hospitalizing a lot of people for vague or questionable reasons.
- o Contrary to the folklore, AFDC frequent users whose primary source of care was an OPD or ER have the lowest rates of hospitalization among frequent users.
- o The notion that frequent users of care are hypochondriacs who "shop around" for attention is not supported by the data on hospitalization for these patients. There were, for example, no comparative indications of hospitalization for mental disorders or ill-defined symptoms.

Hamcke's paper, "Where Medicaid Eligibles Receive Ambulatory Care: A Methodology to Assign Predominant Source of Care" (see Appendix B for its conclusion), documents and develops the procedures used to assign predominant source of care (PSC) for sampled patients. In addition, she develops a number of alternative routines which demonstrate the robustness of the method used. She also provides substantial detail on the distribution of PSCs for California Medicaid patients. Although OPDs and ERs were growing in market share for this period, the overwhelming proportion of patients still were being treated in private physicians' offices. Since this was a project based on California data, extrapolation to other parts of the U.S. should only be done with caution. Yet we should note that at the initiation and during this project, the folklore was that Medicaid patients in California were seen in private physician offices only infrequently. This is, of course, the belief

still held about the rest of the U.S. Our data, at least, did not support such hypotheses.

Hamcke's other paper, "Medicaid Claims Data as a Source of Hospital Diagnostic Information" (see Appendix C for its conclusion), discusses the limitations of claims data as well as their strengths in analyses of patient care. She also compares the distribution of hospital diagnoses from claims data to independent sources and finds close agreement.

In the final paper in this project, "Use of Medical Care by a Sample of the Medicaid Population: A Compendium of Data Tables, California, 1976-1978," Held provides a comprehensive set of data tables from the project as a reference guide for persons interested in medical care use by the Medicaid population.

Final Considerations

Of all the issues on which we expected to be able to throw additional light, two continued to elude us throughout the project:

- the effect of physician price on the private office/OPD-ER use of Medicaid patients;
- the relationship between inpatient and outpatient care.

During the process of reviewing why this was so, we came to conclusions with respect to both which have at least potential policy relevance. As such, they are worth presenting briefly here.

The Effect of Physician Price on Private Office/OPD-ER Use. The hypothesis we expected to be able to confirm on this issue is straightforward: that an increase in Medicaid money prices would increase the ratio of private office visits to OPD/ER visits by Medicaid eligibles. The reasoning is straightforward. If private prices are high relative to Medicaid fees,

physicians can be expected to increase the proportion of private patient visits in their practice, thus forcing some Medicaid patients out of private offices into the OPD or ER setting.

There is an obvious reason why the hypothesis as stated was not confirmed. OPDs and ERs in California at that time were paid on the basis of the same fee schedule as private physicians, discounted by 40 percent to take into account hospital overhead reimbursements from another source. Thus, the 20 percent overall fee schedule increase applied to physicians in OPDs as well as those in private practice--and no differential effect was to be expected from that source. In addition, however, after the first year of the fee increase, the OPD discount was reduced from 40 to 20 percent--implying a de facto price increase for OPD/ER visits relative to private physician office visits. For this reason, what we should have expected to find was some drain of Medicaid visits from private offices to OPD/ER visits. There were some hints of this in the data, but the results were not generally robust, statistically significant, or terribly consistent. Perhaps the net effect was too subtle for our price measures. Perhaps the qualitative choice models we used require more personal characteristics for patients than was available to us through the medical claims data. Certainly OPDs are not perfect substitutes for private physicians' offices and we did not have good measures of taste and availability differences to use as control variables. On further reflection, however, our view is that in any case the substitution of one for another is not in fact the central policy issue it was previously thought to be. The argument was that patients should be "kept out" of the OPD and ER to the extent possible because such visits in themselves cost more than visits to private physicians' offices. Even more, the general suspicion was that such visits

were more likely to lead to inhospital stays than would visits to private physicians' offices.

Our study of the situation in California provides little or no support for this view. When patient mix in the OPD and private office was adjusted (the major difference was the incidence of pregnancies), the hospitalization rates in the two settings were quite comparable. The noteworthy point about our study from this point of view, of course, is that OPDs and ERs were already under a prospective fee schedule in California, and the price of such visits was low. Obviously generalizing from the California experience should be done with caution. It would appear to us, however, that the central policy issue about the OPD-ER visit versus the private office visit is to put the two types of visit under a similar set of incentives embedded in some kind of prospective payment scheme. These may be the cost incentives to which hospitals respond, rather than the alleged incentive to overhospitalize.

Relationship Between Inpatient and Outpatient Care. The issue of inpatient versus outpatient care and their relationship can be summarized in the following two alternatives:

- The first alternative is that "a stitch in time saves nine." Under this notion, higher physician fees will increase patient access to physicians. This will allow physicians to treat patients in a manner which leads to less severe conditions developing than those that require hospitalization. Under such a scenario, inpatient and ambulatory physician care are substitutes for one another.
- The second alternative is that the more physicians see patients, the more they need to hospitalize them for

conditions detected in the office. Under this model, ambulatory care and inpatient care are complements. If one increases, so does the other. We might note that one need not have a cynical view of physician behavior for this model to hold. It may well be that at zero money cost to patients there are numerous untreated conditions exist that can be treated with a result of improved health status and well-being. Since Medicaid patients face no out-of-pocket expenses for medical care, a physician who is acting in his/her patients' best interests could well be treating conditions that, under different financial conditions, neither the patient nor society would choose to finance.

Clearly individual cases differ, with some office visits being preventive and others leading to identification of conditions needing inhospital care. The important cost issue, of course, is in which group the preponderance of the visits fall.

When our project was conceived, the conventional wisdom on these alternative interpretations was mixed. Analysis of nonexperimental data by Newhouse and Phelps,* for example, favored the complementarity notion. Analysis of nonexperimental data by Helms, Newhouse, and Phelps also supported this view, but with substantial reservations about the possibility of self-selection

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*Joseph P. Newhouse and Charles E. Phelps, "New Estimates of Price and Income Elasticities for Medical Care Services," in The Role of Health Insurance in the Health Services Sector, ed. R. Rosett (New York: National Bureau of Economic Research, 1976).

biases. Another interpretation of the same data by Roemer*, however, suggested the substitute interpretation, with the caveat that the inpatient care alternative was much more expensive.

Our general approach in the analysis of this project was to use a probit estimation of the likelihood of being hospitalized as a function of two or more prices, usually of ambulatory physician visits, and a measure or two of prices received by physicians for inpatient care (e.g., hospital visit and surgery per RVU). The approach is based on the notion of cross-price elasticities which imply that if the price for inpatient care and outpatient care have the same sign, then inpatient care would be a complement to outpatient care. If the signs are opposite in sign, then this would be evidence that inpatient care was a substitute. As with the OPD/ER versus private visit issue, our results were not consistent and robust enough for us to feel confident about either interpretation.

Now we have the results of the RAND Health Insurance Study, a controlled experiment that assigned a random sample of families from the general population to varying levels of prices for ambulatory care and inpatient care. The health care use of these families was then followed for several years. The RAND results** strongly support the complementarity arguments at least for adults, i.e., as ambulatory use changes, inpatient use changes in the same

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*Jay Helms, Joseph P. Newhouse, and Charles E. Phelps, "Copayments and Demand for Medical Care: California Medicaid Experience," Bell Journal of Economics (Spring 1978), vol. 9, no. 1, pp. 192-208, and M. I. Roemer et al., "Copayments for Ambulatory Care: Penny Wise and Pound Foolish," Medical Care (June 1975), vol. 13, pp. 457-466.

**Joseph R. Newhouse et al., "Some Interim Results from a Controlled Trial of Cost Sharing in Health Insurance," New England Journal of Medicine (December 1981), vol. 305, no. 25, pp. 1501-1507.

direction. Although a full-scale extrapolation of these results to the Medicaid population obviously would be premature, the RAND results should be given serious consideration. To date, this was the best designed, executed, and analyzed project that focused on the issue of complimentarity versus substitution qualities of medical care. Given that our analysis as well as previous research has been ambiguous on the issue, and no study has produced results strongly suggesting the substitution argument, it may be that the burden of proof is now on the proponents of that argument. In other words, the notion that higher physician prices leads to more ambulatory care use is generally if not universally supported by research findings. Whether higher ambulatory use leads to higher or lower total costs depends on whether or not hospital use increases or decreases as a consequence of the increased ambulatory use. At this point, the research findings are more equivocal, although the strongest research, which is from the Health Insurance Study, suggests that more ambulatory care use will lead to more inpatient use and higher total costs.

These results are relevant to the policy debate over continuing health care costs, particularly those focusing on public medical care programs. It might be argued that one method for containing costs is to increase physician fees in public programs. The conclusion of the above discussion is that higher and not lower total costs is the likely result.

APPENDIX A

Conclusion of the Paper Entitled:

"Why Are Frequent Users of Ambulatory Care Responsible for a Disproportionate Share of Medicaid Expenditures in California?"

by

Katherine Swartz

CONCLUSIONS

The genesis of this paper was to attempt to determine why frequent users of ambulatory care account for two-thirds of Medicaid expenditures on AFDC females in California. Of particular interest was whether or not any of the hypotheses concerning high expenditures for frequent users could be supported, particularly those that pointed a finger of blame on physicians in private practice and in urban areas. One such hypothesis is that physicians in private practice drive up Medicaid costs by unnecessary diagnostic tests and hospitalization. Although the frequent users who have a physician's office as a PSC or do not have a clear source of care have the highest rates of hospitalization, there is no evidence to prove that the physicians are hospitalizing a lot of people for vague or questionable reasons.

Another hypothesis is that people who visit a physician in an ER or OPD are more likely to have unnecessary diagnostic tests and stay in the hospital because the ERs and OPDs are staffed by young and inexperienced physicians who opt for these forms of medical care more than would experienced physicians. But California's AFDC frequent users whose PSC is an OPD or ER have the lowest rates of hospitalization among the frequent users. Yet another hypothesis points the finger of blame on the frequent users themselves. Proponents of this hypothesis argue that frequent users are largely hypochondriacs who shop around among physicians, seeking attention and thereby driving up costs. Since we do not know whether the females whose PSC is a physician's office saw the same physician or not, we cannot make a definitive statement about this hypothesis. However, it seems likely that if it were true, we would observe higher incidence rates of hospitalization for mental disorders and ill-defined symptoms for this group than for the U.S. population of females. And we do not.

Unfortunately, these findings are limited in their usefulness for developing a national policy to reduce the Medicaid expenditures for frequent users of ambulatory care. As we noted at the beginning, the data used here are for California between 1976 and 1978. There is strong evidence to suggest that Medicaid eligibles in California at that time were far more likely to receive ambulatory care in physicians' offices than were their counterparts in other states, particularly in the Eastern United States.* Thus, the fact that these data do not support the hypothesis that OPDs and ERs hospitalize people unnecessarily does not mean that we can rule out the hypothesis for the country as a whole.

However, among AFDC females eligible for Medicaid in California in 1976-78, it is clear that the high expenditures for the frequent users of ambulatory care are because one in seven of them were hospitalized at least once in six months. Only one in 20 of the infrequent users were hospitalized. Furthermore, the average expenditures for hospital inpatient care were 90 percent higher for the frequent users than for the infrequent users. The incidence rates of major diagnosis groupings for frequent users, infrequent users, and the female population of the U.S. make it difficult to believe that these differences in hospitalization rates and expenditures for the frequent and infrequent users are not the result of the frequent users being in poorer health than the infrequent users. And if this is indeed the case, then it is not clear that managed care would reduce California's Medicaid expenditures appreciably for frequent users of ambulatory care.

Clearly more needs to be known about frequent users of ambulatory care in California and the United States as a whole. In particular, what is the

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*John Holahan of the Urban Institute has unpublished data that suggest this is the case.

general health status of such people relative to infrequent users of ambulatory care? What proportion of frequent users see many different physicians even though they choose to go to one type of ambulatory care setting most of the time? To what extent is the ambulatory care received by California's AFDC females who are eligible for Medicaid different from that received by Medicaid eligibles in the rest of the country? If there are differences in the patterns of ambulatory care, are there also different hospitalization rates among people who see a physician in an ER or OPD as opposed to a private office? Answers to such questions would be valuable in developing national policies that would control Medicaid expenditures without also having unintended consequences for the quality of care received by Medicaid eligibles.

APPENDIX B

Conclusion of the Paper Entitled:

"Where Medicaid Eligibles Receive Ambulatory Care: A Methodology to Assign Predominant Source of Care"

by

Carol Hamcke

CONCLUSION

Assignment of PSC, using the methodology described in this paper, turns out to be a reliable index of where the beneficiary received most of his or her ambulatory care. This is evidenced by the high correlation between assigned PSC and maximum RVU, and by the close correspondence between assigned PSC and the distribution of visits and mean visits. The lack of dramatic shifts over the three-year period also attests to the stability of the measure.

These data show that the private physician office remains the predominant setting in which California Medicaid beneficiaries received their ambulatory physician care over the study period. This is contrary to the view sometimes expressed that the OPD and ER are taking some of the patient load from the private office. The proportion of those whose PSC was a private office remained unchanged for female AFDC beneficiaries from 1976 to 1978, and increased slightly for disabled beneficiaries during the same period. Detailed analysis examining why people go to different settings for their ambulatory physician care is beyond the scope of this paper. However, the methodology and descriptive data presented here are useful in providing a first-cut analysis of where people go for ambulatory physician care which may be useful in determining policy options in the health care area.

APPENDIX C

Conclusion of the Paper Entitled:

"Medicaid Claims Data as a Source of Hospital Diagnostic Information"

by

Carol Hamcke

CONCLUSION

Medicaid claims data provide information on large samples at much lower cost than do other information sources of comparable detail. The purpose of this paper has been to give some idea of whether our analysis file gives an unbiased picture of the usage patterns of the Medicaid population, and whether that population is representative of other wider populations

With respect to the first, there are two major questions: Do first hositalizations reflect the distribution of all hospitalizations during a six-month period? Does the methodology used to assign a predominant source of ambulatory care produce an accurate measure of the incidence of visits to a private physician's office visits versus an outpatient department. Reliability tests on both scores indicate that the calculated distributions are indeed unbiased. With respect to representativeness, comparison with diagnosis data from the National Health Survey shows very similar rankings by frequency of diagnosis.

APPENDIX D

Conclusion of the Paper Entitled:

"Effect of Ambulatory Case Mix on Hospitalization Rates"

by

Philip J. Held
Katherine Swartz

CONCLUSIONS AND IMPLICATIONS

The conclusions and implications of our analysis address two major issues: program costs and patterns of care, and basic reimbursement methods. Each is discussed in turn.

Program Costs and Patterns of Care

The following appear to be the major conclusions of this analysis with respect to California Medicaid between 1976 and 1978:

- Private physicians' offices were the predominant source of care for the majority of both the disabled and AFDC females.

- Hospital OPDs were the predominant source of care for approximately 10 percent of the eligibles. Although this study was restricted to California Medicaid, the aggregate national data suggest that California may be typical, at least for charge-based systems.

- The key to understanding differences in total costs across predominant sources of care is hospitalization. Other costs such as pathology, radiology, and even ambulatory physician visits, showed relatively small differences across different settings.

- For both the AFDC females and the disabled, the number of relative value units per physician visit, a measure of physician intensity of service, was remarkably close for both private practice and OPD sources of care. This suggests similarity of ambulatory care patients in the two settings.

- There were substantial differences in the proportions of hospitalizations that can be categorized as permitting no physician discretion as to the need or timing of hospitalization across different settings of care. These differences were most marked for the AFDC females and stem to a great extent from differences in the predominant source of care for pregnant women. Given the demographics of the disabled, pregnancy is not a frequent medical condition for them. Nonetheless, there were also indications of greater hospitalizations for diagnoses permitting no discretion for the disabled with an OPD as their predominant source of care compared to a private practice.

- There are strong indications that "discretionary" surgery was more likely to be performed for patients whose predominant source of care was a private practice.

- When pregnant women are excluded from the sample,* the differences in the average total cost of care between OPD and private office patients for AFDC females disappear. (In fact, the mean cost for OPD patients was 14 percent less than for private practice patients.)

The patterns of cost and use for the disabled are similar to those of the AFDC females in many aspects, but significantly different too. Not only were the disabled more likely to be hospitalized, but there is some evidence that disabled patients whose PSC was the OPD had a greater likelihood of using a long-term care facility compared to either AFDC patients or disabled patients whose PSC was a private physician's office. We note that schizophrenia was the single most frequent hospital diagnosis for the disabled, which suggests that the psychiatric hospitals may also be serving as long-term care facilities. This would not explain, however, why the disabled from the OPD are more likely to use long-term care than those from private practice.

Basic Reimbursement Methods

States follow one of two basic methods for reimbursing providers of medical services. The first is cost reimbursement, whereby providers receive the "cost" of care, which is usually an accounting estimate of average actual costs per day or per service. This method, which has traditionally been used to reimburse short-term hospitals for inpatient care, has come under increasing criticism because of the incentive for providers to provide both more care

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*There is another reason for excluding pregnant women other than nondiscretion for hospitalization. California's Medicaid procedures allow for a flat payment to the obstetrician which includes all prenatal care as well as the delivery. Consequently, prenatal visits will not be covered by individual claims and would not be recorded in these data. This could lead to bias in the predominant source of care if women were to receive their prenatal visits at some PSC other than where they receive their other ambulatory care.

and more expensive care. Many states reimburse outpatient visits to OPDs and emergency rooms on this basis.

The other method of reimbursement for medical services is a prospective payment system, whereby providers receive a predetermined fixed amount for a given visit or service. This method is frequently employed to reimburse physicians under a variant called a fee schedule, that is, a set of fixed predetermined prices for a given set of services. The U.S. Department of Health and Human Services has recently implemented a prospective payment system for Medicare's reimbursement for hospitals using Diagnostic Related Groups (DRGs); hospitals will receive a fixed dollar amount for a patient with a given set of criteria (e.g., age and diagnosis).

During the period of our study, California Medicaid reimbursed practically all providers of physician services on a prospective payment system. Although most states reimburse for physician visits provided in a private office on a prospective payment basis, California was somewhat atypical in that only a minority of states employ a fee schedule for OPD services.* It is most likely that this OPD payment method has strong implications for how providers respond in their treatment of Medicaid patients, and the results presented above are probably dependent, therefore, on this OPD reimbursement method. In other words, the costs and patterns of care reported are, at least in part, a consequence of the payment method. Generalizing from these results, therefore, needs to take account of the differences that may exist in payment methods among states.

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*See Muse and Sawyer (1982, pp. 116-118). California basically had a prospective payment system for reimbursing physician visits in an OPD, with some discounting of the fees compared to what physicians in private offices receive. In the first year of this study, the discount was 40 percent, but it was reduced to 20 percent in the latter two years (1977-1978).

It appears, then, that one of the noteworthy findings of this study is that differences in total program costs per patient month between private practices and OPDs, in a state which uses a prospective payment system for both OPDs and private practice, need not be dramatically different.* More refined analyses as part of this or future projects may show differences in costs that offer opportunities for cost savings through appropriate restructuring of incentives. However, it seems clear from these data that the magnitude of the savings will be substantially less than what conventional wisdom has been suggesting.**

Many positive things can be said about a prospective payment system such as that used by California for reimbursing hospital outpatient departments. Such a system gives the hospital an incentive to minimize costs.*** In addition, if similar services are reimbursed at similar rates regardless of where they are received, then providers and patients have incentives to choose among

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*California hospitals were not particularly happy about the level of reimbursement they were receiving from Medicaid for OPD services. They argued that the charge should be linked to costs, and their costs (allegedly) exceeded what the state was willing to pay. (Personal communication, California Department of Health Services.) Apparently, a substantial legal suit brought by the California Hospital Association argued that paying charges independent of costs was an inappropriate basis for the state to use in reimbursing hospital OPDs. The case was decided in favor of the state.

**Determining the appropriate charge the state should pay for a service is not straightforward. Setting the charge too low is likely to decrease access or quality, since providers will be less willing to treat patients at that price. Setting the price too high will cost the program more than the social value of the services provided. And the social value of the services is ultimately a political and social judgment about where and what services the public wants to purchase for the Medicaid population. We are ignoring here any effects of the setting of ambulatory services on the use of inpatient care. For more details on this topic of what charges should be, see Held and Pauly (1983).

***Technically this is only true if the hospital maximizes profits, which may or may not be true for nonprofit hospitals.

alternatives based on medical, ethical, and other values. In other words, fiscal incentives are not distorting the choice structure.

Our analysis has focused on the issue of total program costs per patient month; it is worth repeating that the cost of ambulatory care is only a minor part of the total. If ambulatory costs are controlled via a prospective payment system, it is the potential abuse of the admitting power to the hospital that should be of public concern. The results discussed here show that, within reasonable bounds of precision and our currently available data, it does not appear that the admission power of OPDs has been seriously abused if private practice physicians are used as a standard of comparison.

A natural extension of the prospective payment concept is for the state to pay a flat rate per patient for all medical services for a specified time period. This is, of course, the popular HMO (Health Maintenance Organization) concept. The data on pregnancies presented for the AFDC population and the use of long-term care facilities by the disabled highlight the issue of adverse selection, which is always a potential problem under capitation when either patients or providers can select each other in a fashion which is correlated with expected costs of care. Under a capitation scheme, providers have the obvious financial incentive to avoid any patient whose expected costs exceed the capitation amount. Although we have no precise explanation as to why these above-average cost subgroups of the population were more likely to use an OPD, our data indicate that, indeed, they did. These examples of self-selection provide some evidence that design of a capitation plan for Medicaid recipients would need to be concerned with adverse selection. If design of a capitation plan does not consider such a danger, there are likely to be problems of reduced patient access and quality of care, or fiscal insolvency for providers.

APPENDIX E

Conclusion of the Paper Entitled:

Medicaid Physician Prices and
Changes in Medical Care Use

by

Philip J. Held

CONCLUSIONS

Our results suggest the following:

1. The physician Medicaid supply schedule is positively sloped. Even though Medicaid patients face no out-of-pocket costs, increases in Medicaid fees for physician services lead to substantial increases in the ambulatory Medicaid care use by the Medicaid population. Medicaid price elasticities of greater than 0.7 are indicated.

2. Increases in Medicaid fees lead to increases in the proportion of Medicaid eligibles who use ambulatory physician services. Again, the elasticities appear to be large, with point estimates of 0.7 or higher. This result is new to the literature, and helps us to disentangle the issue of whether an increased supply by physicians for Medicaid patients leads to more patients being treated or just more services going to the same pool of patients. It is clear from these results that higher Medicaid prices lead to higher proportions of eligibles who use the medical system. This result does not preclude more visits for existing users.

3. There seems to be an unequivocally positive relationship between Medicaid price paid to the physician and the number of visits per beneficiary per time period. The same is true for the total ambulatory care RVUs, although the result is not as quantitatively large as the increase in visits because of the negative relationship between Medicaid price and RVUs per visit. One plausible explanation for the negative relationship between medicaid price and RVUs per visit is that the additions to this pool of ambulatory care

users which result from a higher price have a higher health status than the average and, consequently, lower needs for care.

4. The positive effects of private price on visits and total RVUs is unexpected and may indicate that our attempt to remove simultaneity by using county averages was unsuccessful. Economic theory and other research both lead us to expect the effect of private price on number of Medicaid visits to be negative.

IMPLICATIONS FOR POLICY

1. Higher Medicaid prices mean higher use of ambulatory care by the Medicaid population. This notion of higher use is akin to the term "access" to medical care. Whether this higher use is desired or not depends on how much ambulatory medical care society wishes the Medicaid population to receive. But the choice of what is too little or too much involves normative policy questions beyond the scope of this analysis.

2. Undoubtedly, ambulatory physician services are the principal avenue of entry into the medical care system. Equally clearly, higher Medicaid physician fees lead to higher ambulatory care costs. But does this lead to higher total Medicaid costs? The answer depends on whether or not inpatient care is a <u>complement</u> to or <u>substitute</u> for ambulatory care. For example, does the fact that physicians see more Medicaid patients more often mean that a "stitch in time saves nine" and that Medicaid patients will be hospitalized less? Or does more physician visits imply more conditions found that need inpatient care? One need not be a cynic to believe the latter to be true;

there are undoubtedly many conditions that patients present which should be "repaired" when the cost to the patient is zero. In all probability, the world is a mix with some conditions preventable and some in which more access will mean more total care and better health. The question is an empirical one as to what the average is.

The Health Insurance Study (Newhouse et al., 1982) suggests that, for the adult population as a whole, inpatient and ambulatory care are complements and that higher ambulatory care leads to higher inpatient care and higher total costs. While the results of this study are impressive, it is not clear that they are directly applicable to the Medicaid population. The importance of the issue makes it a high priority item for future research.

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